

Materials for Damping Ambient Acoustic and Vibration Signals, Phase I

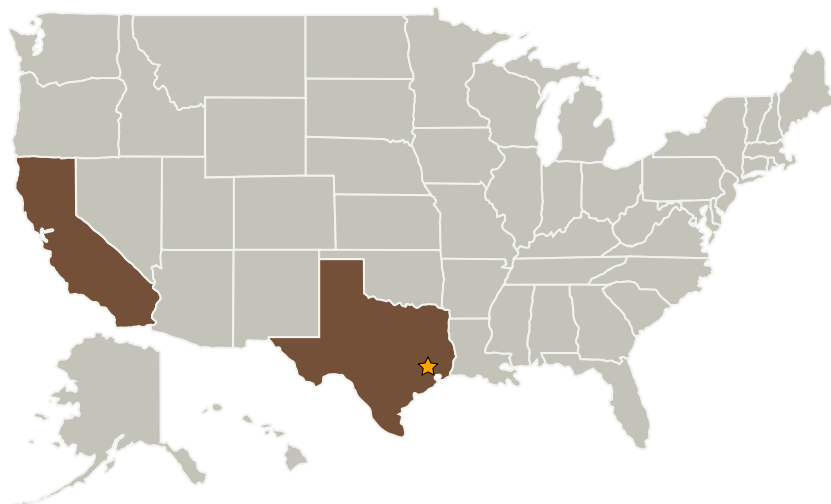
Completed Technology Project (2007 - 2007)



Project Introduction

Long-term exposure to even relatively low levels of acoustic and vibration signals has been shown to be potentially harmful to humans. A new class of piezoelectric materials is proposed to provide acoustic and vibration damping for increased crew comfort and protection for long-duration space flight. The effectiveness for piezoelectric materials to damp the kinetic energy of mechanical stimuli such as vibration, impact or acoustic signals has been previously demonstrated by the applicant and others. The proposed piezoelectric materials can be incorporated into crew clothing, seating and bedding; linings for floor, wall and/or ceilings; and integrated into composite panels for use as structural members in vehicle construction. Due to the novel nature of the materials, Phase I will focus primarily on production and characterization of mechanical and piezoelectric properties for sample materials. While issues such as off-gassing and flammability are not considered problematic for the proposed materials, these will also be evaluated during Phase I.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
SmartWear, LLC	Supporting Organization	Industry	Santa Monica, California

Primary U.S. Work Locations	
California	Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
 - └ TX12.1 Materials
 - └ TX12.1.1 Lightweight Structural Materials